Evaluating the Deficit

The Case for Budget Cuts

Neil Bruce
and
Douglas D. Purvis

84- 4327

C.D. Howe Institute

The C.D. Howe Institute was established in 1973 by the merger of the C.D. Howe Memorial Foundation and the Private Planning Association of Canada. It is a nonprofit, nonpolitical organization seeking to contribute nonpartisan research findings and commentary on Canadian economic policy issues.

The guiding principle of the Institute is to conduct its research and analysis in a manner that is balanced in approach, professional in method, and readable in style.

To ensure diversity in perspective, participation is encouraged from organized labor, business, agricultural associations, and the professions.

While its focus is national, the Institute recognizes that Canada is composed of regions, each of which may have a particular point of view on policy issues, unique interests and concerns, and different concepts of national priorities. The Institute also pursues involvement from both of Canada's major linguistic communities.

It is not the purpose of the Institute to promote consensus on policy issues, although on occasion that may be feasible. The primary function is to add to public understanding of issues by providing sound analysis reflecting objective treatment of diverse points of view. The staff of the Institute seeks to develop good working relationships with public officials for the purposes of better understanding the basis for government decisions and contributing effectively to public policy formulation.

A Board of Directors is responsible for the general administration of the Institute, while the immediate direction of the policies, program, and staff is vested in the Executive Director. The function of the Board is to make independent research and publication possible under the most favorable conditions and not to control the conduct and conclusions of research activity.

Michel Bélanger is Chairman, Wendy Dobson is Executive Director and Treasurer, and Wendy Walker is Corporate Secretary.

The Institute's publications are available from its offices: Suite 900, 555 Dorchester Blvd. W., Montreal, Quebec H2Z 1B1; P.O. Box 1621, Calgary, Alberta T2P 2L7; and Glendon Hall, 2275 Bayview Avenue, Toronto, Ontario M4N 3M6.

Evaluating the Deficit: The Case for Budget Cuts

Neil Bruce
and
Douglas D. Purvis

Policy Commentary No. 4

C.D. Howe Institute

Canadian Cataloguing in Publication Data

Bruce, Neil, 1943-
Evaluating the deficit

(Policy commentary, ISSN 0825-592X ; no. 4)
Includes bibliographical references.
ISBN 0-88806-123-4

1. Budget - Canada. 2. Deficit financing - Canada. 3. Fiscal policy - Canada. I. Purvis, Douglas D. II. C.D. Howe Institute. III. Title. IV. Series: Policy commentary (C.D. Howe Institute) ; 4.

HJ2055.B78 1984 399.5'0971 C84-099259-9

ISBN 0-88806-123-4
ISSN 0825-592X
Quotation with appropriate credit is permissible
C.D. Howe Institute, Toronto, Montreal, and Calgary
Printed in Canada -- July 1984, $4.00

Contents

Foreword v

Introduction 1

Why Do Deficits Matter? 3
Deficits and Stabilization Policy 4
Deficits and Fiscal Prudence 6
The Costs of Fiscal Imprudence 8

Evaluating Fiscal Prudence 11
Fiscal Prudence in a Simple Economy 11
Fiscal Prudence over the Business Cycle 13

Measuring the Federal Deficit in Canada: 1970-83 and Beyond 15
The Structural Deficit 18
The Imprudent Deficit 20

A Program for Fiscal Prudence 26
Fiscal Prudence and Stabilization 26
Deficit Reduction Strategies 27

Conclusion 29

Notes 31

Figures

1 Federal Government Deficit, 1971-88 18

2 Federal Government Debt, 1971-88 19

Tables

1 Federal Government Budget Balance, 1979-88 16

2 Consolidated Government Budget Balance, 1979-88 17

3 Ratios of Debt to GNP, 1971-88 23

Foreword

Canadians have lived with large and growing government budget deficits for a decade. Only recently have the cumulative effects of these deficits begun to be recognized. As growth in government debt exceeds the growth of the economy, governments increasingly lose their ability to stabilize the economy and greatly increase their vulnerability to rising interest rates.

The federal government, which accounts for virtually the entire public-sector imbalance, must reduce its deficit during the next five years.

For most Canadians, who are more concerned with persistent high unemployment, action to reduce the federal deficit may appear untimely, even ill-advised. Yet the cumulative effects of deficits threaten future employment growth and job security. The necessity of reducing deficits is not apparent to many economists because the debate has tended to focus on the stabilization impact of structural deficits and to overlook the damaging consequences of continued growth in actual deficits and the public debt.

The purpose of this Policy Commentary is to examine why the deficit must be reduced. The authors, Professors Neil Bruce and Doug Purvis of Queen's University, are among Canada's leading students of fiscal policy. They have concluded that the time has come in Canada to tackle the federal deficit because the present fiscal plan -- the spending and revenue projections that underlie federal budget strategy -- is imprudent.

The fiscal plan is imprudent regardless of whether or not a large structural deficit exists. The authors separate the deficit into three components. The first -- the "cyclical" component -- results from the economy operating well below capacity. The second -- the "trend" component -- represents the size of deficit that is consistent with maintaining the public debt at a constant fraction of the nation's GNP. When these components are subtracted from the actual deficit, the remainder represents the "imprudent" component of the deficit. It is imprudent because actual deficit projections imply that growth of the public debt will continue to outstrip the growth of the economy even if the economy continues to expand at a healthy rate. Interest payments on the debt threaten to consume an increasing proportion of federal revenue.

The present strategy entails significant costs for the Canadian economy. By absorbing savings, deficits will crowd out investment spending in Canada; if the necessary capital to finance investment is imported, Canada's foreign indebtedness will rise and the return on investment will flow abroad; difficulties in financing future deficits without pushing interest rates higher adds to speculation that the Bank of Canada will be forced to resort to inflationary finance; and increased taxes needed to fund growing interest payments on the debt could add to a federal tax burden that is already high.

It is the growing interest commitments of the federal government and the vulnerability to

high interest rates that pose the most serious risk. A sudden rise in international interest rates would increase both federal interest costs and the deficit and restrict the scope for government expenditure to achieve other desirable goals.

These are the important reasons why Canada must tackle its federal deficit. The import of the authors' argument is not that there should be sudden stringent measures, but that there be set in place both a strategic plan and a commitment to reach a target reduction by 1988.

The next step is to develop that plan in a way that minimizes the costs and spreads the burden fairly among all Canadians. The Institute will address those questions in a subsequent publication, Tackling the Federal Deficit, which will outline how the deficit might be reduced and which will illustrate some of the difficult and contentious choices that Canadians must first discuss, and then make.

The Institute invites Canadians' consideration of these important issues, and urges that action be taken soon. As with all publications of this nature, the conclusions are those of the authors and do not necessarily represent the views of the Institute's members.

Wendy Dobson
Executive Director
July 1984

Acknowledgements

We would like to acknowledge and thank Ted Carmichael, Wendy Dobson, Richard Lipsey, and Murray Smith at the C.D. Howe Institute and John Sargent at the Royal Commission on the Economic Union and Development Prospects for Canada for their valuable comments and suggestions. None of the above is responsible for any errors or omissions.

Neil Bruce
Douglas D. Purvis

Introduction

Government budget deficits, which vary over the course of the business cycle, can play a beneficial role in stabilizing the economy in the short term. This role does not require that budget deficits persist or that government debt accumulate; deficits that arise during recessions can be offset by surpluses during periods of economic expansion. However, large and persistent deficits that cause government debt to grow relative to GNP impose costs on the economy over the long term.

We use the term "fiscal imprudence" to describe a budget policy that imposes long-term costs due to persistent deficits.[1] Although these costs are difficult to quantify and occur only over the long term, they should not be ignored. Uncertainty about such costs should not be taken to imply that they are small. A well-designed fiscal policy provides the benefits of short-term stabilization while avoiding the long-term costs of fiscal imprudence.

In this Policy Commentary, we argue that the current fiscal plan of the federal government is imprudent in the above sense, and that the next federal government must cut the deficit. The need for such a cut has been denied by some economists on the basis of a small and declining "structural" deficit. The structural deficit is calculated by adjusting the actual deficit for the effect of the business cycle on government revenue and expenditure and for the effect of in-

flation on the real value of the government debt. It is appropriate for assessing the short-term stabilizing impact of discretionary policies. We argue, however, that the structural deficit, as commonly measured, is not appropriate for determining whether the fiscal plan is prudent. Quite another measure -- which we call the "imprudent" deficit -- is needed to assess the long-term harmful effects of the deficit. The larger is this imprudent deficit, the larger are the long-term costs imposed on the economy.

Our argument that the deficit must be cut is organized as follows. In the first section, we discuss the reasons why deficits matter in the short and long term, and emphasize the long-term costs associated with a high and growing debt-to-GNP ratio. In the second section, we explain the concept of the imprudent deficit and how it relates to the debt-to-GNP ratio, and contrast it with the structural deficit as commonly measured by economists. We then explain why small structural deficits give false comfort to those who believe that deficit cuts are unnecessary. In the third section, we examine Canada's deficit experience between 1979 and 1983 and the projected deficits from 1984 to 1988. We calculate the imprudent component of the deficit from 1984 to 1988 and contrast it with the unadjusted and structural deficits projected by the Department of Finance. Our finding is that Canada's current and projected deficits, while not unduly stimulative as measured by the structural deficit, in fact contain a large imprudent component. In the

fourth section, we outline a program to restore long-term fiscal prudence in the federal budget.

We conclude that, by 1988, the federal deficit must be reduced to $7 billion from the currently projected 1988 level of $18 billion if the costs associated with an imprudent deficit are to be avoided. This will require a total reduction of $20 billion from the projected 1984 deficit level over the next four years.

Why Do Deficits Matter?

In this section, we consider the potential short-term stabilization benefits of cyclical variations in the deficit and the potential long-term costs of large and persistent deficits. Public-sector deficits influence the economy because they influence the private sector's current disposable income, which, in turn, influences private expenditure.

The first link in this chain is the influence of public-sector deficits on private-sector income. For a given level of government expenditure, a smaller deficit would mean higher taxes and therefore lower disposable income in the private sector.

The second link is the influence of current private-sector disposable income on private expenditure.[2] When income fluctuates over the course of the business cycle, private expenditure also fluctuates. This, in turn, exacerbates the cyclical fluctuations in income. When their income falls, for example, households and firms

may wish to borrow in order to maintain their level of spending, but many will find that they are limited in their ability to do so. Probably the most important reason for this is that capital markets are not perfect. The ability of households and firms to borrow in capital markets is sensitive to their current circumstances.

This tie between public deficits and private spending allows, on the one hand, stabilization policy to reduce fluctuations in the business cycle. On the other hand, it also creates the potential for large and persistent government deficits to impose long-term costs on the economy.

Deficits and Stabilization Policy

As stated above, government deficits can smooth total expenditure over the course of the business cycle.[3] Even when the trend of government spending remains constant, economic activity can be stabilized by varying the way in which this spending is financed. For example, issuing bonds rather than raising current taxes to finance government spending will raise current disposable income and hence current spending in the private sector.[4] Thus, by raising income and expenditure above what they otherwise would have been, government budget deficits can mitigate a recession. Similarly, by depressing income and expenditure, government budget surpluses can mitigate an economic boom.[5]

The stabilizing effects of deficits can be achieved either by the automatic response of expenditures and taxes to changes in income or by discretionary policy changes. Automatic stabilization results from the fact that transfer payments and tax yields vary as the nation's GNP varies. This causes the deficit to grow during recessions and to shrink during booms. These changes are measured by the "cyclical" component of the deficit -- that part of the deficit that can be accounted for by the gap between actual GNP and some measure of "potential" GNP. Subtracting such a cyclical component from the actual deficit is a routine step in calculating the structural deficit. The structural deficit is then used as a measure of discretionary fiscal policy.

To further assess the impact of fiscal policy on private expenditure, it is necessary to recognize that, in the presence of inflation, interest rates contain an "inflation premium". This inflation premium increases debt service payments by the government, and hence increases the deficit, but does not put additional purchasing power into the hands of the private sector. In order to maintain the purchasing power of their holdings of government bonds, households must save an amount equivalent to the entire inflation premium. Thus, the apparent stimulus to the economy arising from this inflation premium component of the deficit will be offset by an approximately equal increase in private saving. For this reason, an inflation adjustment is also

subtracted from the measured deficit in determining the structural deficit.[6]

The coexistence of a weak economy and a high inflation rate can yield cyclical and inflation adjustments that turn a large measured deficit into a rather small structural deficit or even a surplus. For example, a small structural deficit could reveal a restrictive discretionary fiscal policy operating during a recession despite the presence of a large measured deficit. In general, a structural deficit series, as usually measured, provides a useful summary measure of the "fiscal stance" over time -- that is, an assessment of whether discretionary actions to raise or lower aggregate demand have occurred.

Deficits and Fiscal Prudence

The stabilizing effect of the deficit requires only that the deficit fluctuate over the business cycle. Short-term stabilization is consistent with almost any long-term trend of the public debt, and in particular with either a constant or rising trend. The long-term costs of the deficit depend on the trend in the public debt. To prevent these costs from becoming excessive, we must avoid large and persistent deficits that raise the stock of government debt too rapidly.

We want to carefully distinguish what we believe are sound reasons for concern about the government deficit from the emotive views that are often expressed. A major source of alarm about the government deficit arises when anal-

ogies are drawn between government and private-sector deficits. A household or firm that continually borrows to finance current -- as opposed to capital -- expenditures in excess of current receipts eventually goes bankrupt. It is often asserted that a similar fate awaits a government that tolerates large and persistent current deficits. This analogy is misleading. Unlike households, the government does not have a finite lifetime over which its borrowing and lending must balance. Unlike private firms, its ability to pay interest on its debt does not require that it hold income-generating capital assets.

To define fiscal prudence, it is necessary to recognize that the federal government's ability to service its debt is based on its power to tax the private sector in various ways, including the power to tax through inflation by creating money. For this reason, the criteria for establishing whether the federal government's deficit is prudent are different from those used in evaluating whether the deficit of a private household or firm is prudent. We argue that the essential criterion for determining whether the federal government is being prudent is based on the time pattern of the debt-to-GNP ratio implied by the government's fiscal plan.[7]

The government's fiscal plan is an expenditure and revenue projection for current and future years reported in each budget. We argue that the fiscal plan is prudent if, given some realistic estimates of economic performance and inflation targets over the medium term, the ratio

of the stock of interest-bearing government debt to nominal GNP will not remain permanently above some target value.

The Costs of Fiscal Imprudence

The need for a prudent fiscal plan is based on the numerous costs associated with a high debt-to-GNP ratio. These costs increase relative to GNP as the ratio of debt to GNP increases.[8] Let us examine some of these costs:

- **Reduced capital stock.** By creating bonds that are perceived as net wealth by the individuals who hold them, deficits can reduce physical capital formation. Typically, one group of people makes savings decisions while another, partially overlapping, group makes investment decisions. These decisions are coordinated in capital markets that make private savings available to those who wish to invest in physical capital goods such as machinery, equipment, mines, and factories. Government deficits can be viewed as a leak in this process, a leak that converts savings back into consumption, and hence leads to less accumulation of physical capital than would have been supported by the same private saving in the absence of deficits. This creates a debt burden by reducing the capital stock inherited by the next generation.

This is just another way of stating that large government deficits can crowd out private investment. A deficit that raises spending and

pushes up interest rates lowers investment and other interest-sensitive spending. Lower investment means slower growth in the nation's productive stock of physical capital goods.[9]

- **Foreign indebtedness.** In an open economy, government deficits need not crowd out private investment. But government deficits raise domestic expenditure relative to domestic production, causing imports to exceed exports and generating a trade account deficit. The foreign borrowing that finances this trade deficit allows private investment, and hence output and employment in the domestic economy, to remain unchanged in the face of the government deficit. Instead, the burden of the debt arises from an increasing level of foreign indebtedness; the resulting interest and/or dividend payments to foreigners lower domestic net income relative to the levels of output and employment.
- **Inflation.** Persistent deficits carry a risk of inducing inflationary financing for two reasons. First, the larger the current deficit, the greater the strain in financing it by borrowing from the private sector. Second, the larger the accumulated stock of debt, the greater the difficulty of financing current interest payments from current tax revenue. For both of these reasons, there is a temptation to finance either the deficit or the interest payments on the debt by inflationary finance in which bonds are sold to the central bank, which pays for them with newly created money. Large deficits thereby foster expectations of future inflation and are counterpro-

ductive to a monetary policy geared to lowering inflation.[10]

- **Tax distortions.** The tax revenues needed to service the debt cannot be raised costlessly. In addition to administrative costs, the tax system reduces economic efficiency by altering incentives. Nonmarket activities such as leisure are encouraged, saving and investment are reduced, and some sectors of the economy are discouraged relative to others.
- **Strait-jacket for stabilization policy.** There is a growing perception that a large stock of debt resulting from accumulated past deficits hinders stabilization policy by restricting the scope for current fiscal initiatives. For example, the existence of a large deficit clearly reduced the federal government's scope in its April 1983 budget for fiscal expansion to combat the "great recession".
- **Interest commitments.** A large volume of interest payments has two major effects. First, it introduces an important uncertainty into the budget when interest rates are as variable as they have been over the last decade. A sudden doubling of interest rates, for example, increases the government's interest bill and, on this account, substantially enlarges the deficit. Second, interest payments are a nondiscretionary claim on budget receipts. Thus, a large debt restricts the government's flexibility to alter the composition of its expenditures.

It is for these reasons, rather than ungrounded fears of collective bankruptcy or the government's inability to borrow, that fiscal prudence is important.

Evaluating Fiscal Prudence

A prudent fiscal plan is one that neither causes government debt to rise without limit relative to nominal GNP, nor results in a debt-to-GNP ratio that rises to an unacceptably high level before leveling off. Evaluating whether not a given fiscal plan meets this criterion is a difficult job in practice, so we begin by considering a simple economy with no cyclical fluctuations.

Fiscal Prudence in a Simple Economy

First consider a static economy with a zero rate of growth and with no inflation -- that is, nominal GNP is constant from one year to the next. Further, suppose that initially the debt-to-GNP ratio is at its desired or "target" value.[11] In this static economy, maintaining this target debt-to-GNP ratio requires that the stock of outstanding debt be held constant -- that is, fiscal prudence requires that the government balance its budget.

Now, suppose the economy is growing at the trend rate of, say, 3 percent. The debt-to-GNP ratio will be maintained if the deficit is equal to 3 percent of the -- actual equals target -- stock of government debt. Such a deficit is therefore compatible with fiscal prudence.

Next, suppose that this economy also has an inflation rate of, say, 5 percent, and that policymakers wish to maintain this inflation rate -- perhaps because reducing it would cause unacceptably high unemployment. A deficit of 8 percent (the rate of growth of nominal GNP is 8 percent -- equal to 3 percent real growth plus 5 percent inflation) of the outstanding government debt is compatible with maintaining the desired debt-to-GNP ratio and is therefore prudent. If, for example, the desired debt-to-GNP ratio were 20 percent, the "prudent" deficit would be 8 percent of 20 percent, or 1.6 percent of GNP.

Now, suppose the debt-to-GNP ratio is initially above its target value. If, in the above example, the deficit is equal to 8 percent of the outstanding government debt, the debt-to-GNP ratio will be constant but will remain above the target value. Such a deficit is therefore imprudent. However, we can calculate a target government debt equal to the target debt-to-GNP ratio times nominal GNP. If the deficit does not exceed 8 percent of this target government debt, the debt-to-GNP ratio will gradually decline to its target value. Such a deficit is prudent.

In more general terms, the fiscal plan in a steady-state economy is prudent as long as the deficit does not exceed the sum of the real growth rate plus the target inflation rate times the target stock of government debt. A deficit of this magnitude is prudent because it allows the ratio of debt to GNP to eventually reach the target level.

Fiscal Prudence over the Business Cycle

If the deficit were not useful as a stabilization tool, the government could change its taxes every year so as to keep the deficit at its long-term prudent level in each year. (In a zero-growth, zero-inflation economy, this amounts to balancing the budget annually.) This would, however, exacerbate cyclical movements in the economy. In order to stabilize the economy, temporary fluctuations in the deficit can be tolerated providing that, over some longer term, the fiscal plan remains prudent.

In an economy where GNP is temporarily below trend, the deficit will be raised temporarily because of the dependence of taxes and transfer expenditures on GNP. Also, at any particular time, both the actual inflation rate and the actual debt-to-GNP ratio can differ from their target values. This means that certain adjustments, in addition to the trend adjustments described for a steady-state economy, must be made in order to determine whether a fiscal plan is prudent.

First, GNP may differ from its long-term trend in any given year and, because of the effect of the fluctuations of GNP on taxes and transfers, the deficit may temporarily exceed (or be less than) its long-term prudent value. Such temporary deviations are not imprudent and do not require adjustment in the fiscal plan. In determining whether any deviation is prudent, however, it is necessary to consider the difference between current GNP and the trend in <u>actual</u>, rather

than potential, GNP. It is little comfort that the debt-to-GNP ratio would not rise if the economy were at some hypothetical potential if that potential has not been, and will not be, reached for years on end.

Second, while inflation rates that exceed the target do reduce the real value of outstanding government debt, it is appropriate to use the target inflation rate to evaluate whether the projected deficits are prudent. That is, it is not prudent to have in place a fiscal plan that avoids a high and/or rising debt-to-GNP ratio only by virtue of an undesirably high inflation rate. Moreover, deficits that are too large may create the very inflation used to justify the claim that the "adjusted" deficit is small.

Third, the debt-to-GNP ratio will fluctuate over time because of fluctuations in both debt and GNP. In order to consistently evaluate long-term fiscal prudence, it is necessary to abstract from such fluctuations by using the ratio of debt to <u>trend</u> GNP -- that is, cyclically adjusted GNP. Furthermore, some target value of this ratio must be used in calculating the prudent deficit. For example, a prolonged recession would raise the ratio of debt to trend GNP sharply. Calculating the inflation and trend growth components of the prudent deficit using a high post-recession ratio would implicitly make permanent the rise in the ratio caused by the recession. It does not seem reasonable that a temporary event such as a recession can justify accepting a permanently higher debt-to-GNP ratio.

Measuring the Federal Deficit in Canada: 1970-83 and Beyond

One of the difficulties in evaluating the government deficit is the plethora of different accounting definitions used in measuring it. One can consider the federal deficit alone, or the deficit of the consolidated government sector, which includes the provincial, municipal, and hospital sectors. Regardless of the level of consolidation, there are numerous bases for deficit measurement, including the public accounts (PA), financial requirements (FR), and national income accounts (NIA), some of which are measured on a calendar year basis and others on a fiscal year basis.[12]

These complications aside, all of the deficit measures show trends that, at least on the surface, are disturbing. Between 1970 and 1974, the NIA budget was roughly balanced for the federal government and was in surplus for the consolidated government sector. Between 1975 and 1981, the NIA federal and consolidated budgets were continually in deficit: the federal deficit reached a high of $10.6 billion in 1978, but dropped to $7 billion in 1981. Since the onset of the 1982-83 recession, the deficit has increased sharply: the NIA federal deficit is expected to be $24.3 billion in calendar year 1983 while the PA deficit is expected to exceed $30 billion in fiscal year 1983-84. Furthermore, none of the federal deficit measures are expected to drop below $18 billion by 1988, when the De-

TABLE 1

Federal Government Budget Balance, 1979–88[a]
(current $ billions)

	Actual		Structural		Imprudent
	NIA	Percentage of GNP	Low-trend	High-trend	
1979	-9.1	-3.5%	-4.6	-3.6	n.a.[b]
1980	-9.9	-3.3	-3.7	-2.2	n.a.
1981	-7.0	-2.1	-0.5	+2.2	n.a.
1982	-20.5	-5.7	-5.6	-3.5	n.a.
1983	-24.3	-6.2	-8.8	-6.1	n.a.
1984	-26.6	-6.2	-10.5	-7.5	-12.5
1985	-22.3	-4.7	-7.1	-3.3	-8.7
1986	-17.9	-3.5	-3.9	-0.3	-5.8
1987	-18.1	-3.3	-7.2	-3.3	-9.0
1988	-18.5	-3.1	-7.1	-2.9	-11.0

[a] National Income Accounts basis, calendar years.
[b] n.a., not available

Sources: Figures for actual budget balance are from Department of Finance, *The Fiscal Plan* (Ottawa, February 1984), pp. 50-51; figures for structural component are unpublished, cyclically and inflation-adjusted data from the Department of Finance; figures for imprudent component are authors' calculations, using methodology described in the text. Figures for 1984–88 are projections.

partment of Finance expects the economy will be operating near full capacity. (Further details are available in Tables 1 and 2.)

One learns not to be shocked by nominal (dollar) figures when nominal GNP has nearly quintupled in the past 15 years. Even as a proportion of nominal GNP, however, current deficits are at record highs -- the federal NIA deficit, for example, is expected to be 6.2 percent of GNP in 1984.

Fluctuations in the ratios of the deficit and of government debt to GNP are caused, in part, by cyclical fluctuations in GNP. To allow for this, we have calculated the federal NIA budget balance and federal net fixed-value liabilities as a percentage of cyclically adjusted GNP in Figures 1 and 2 respectively. These Figures show the same broad trends evident in Table 1.

TABLE 2

Consolidated Government Budget Balance, 1979–88[a]
(current $ billions)

	Actual		Structural		Imprudent
	NIA	Percentage of GNP	Low-trend	High-trend	
1979	-4.6	-1.8%	+0.7	-2.3	n.a.[b]
1980	-7.3	-2.5	-0.2	+1.8	n.a.
1981	-3.8	-1.1	+3.5	+6.9	n.a.
1982	-18.9	-5.3	-5.2	-2.0	n.a.
1983	-21.2	-5.4	-2.2	-1.7	n.a.
1984	-22.3	-5.2	-3.6	-0.7	-4.5
1985	-19.5	-4.2	-1.3	-3.4	-2.0
1986	-13.4	-2.6	-1.8	+6.9	+1.8
1987	-12.6	-2.3	-1.6	+4.0	-2.0
1988	-12.2	-2.0	-2.0	+3.4	-3.6

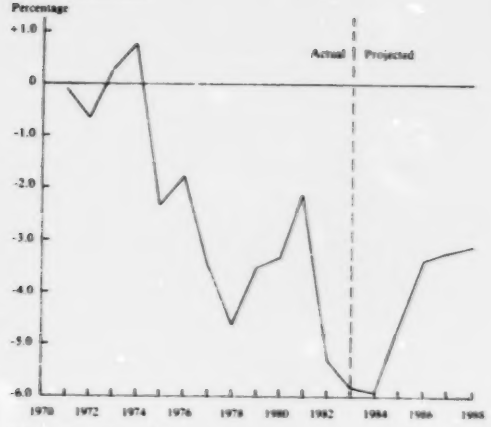
[a] National Income Accounts basis, calendar years.
[b] n.a., not available.

Sources: Same as Table 1.

As shown in Figure 1, projected federal deficits will not fall below 3 percent of trend GNP -- roughly the average of the last half of the 1970s -- before 1988. Another disturbing trend (shown in Figure 2) is found in the ratio of federal government debt (net fixed-value liabilities) to trend GNP.[13] After bottoming out at 5.5 percent in 1975, this ratio has climbed steadily ever since. Furthermore, it is projected to increase throughout the recovery, leveling off at 35.8 percent by 1988. This means that, at given interest rates -- and assuming a constant ratio of interest-bearing debt to net fixed-value liabilities -- debt service financial requirements would constitute a fraction of GNP in 1988 that is nearly seven times greater than in 1975.

FIGURE 1

Federal Government Deficit, 1971-88[a]
(percentage of trend GNP)[b]



[a] National Income Accounts basis, calendar years.
[b] Department of Finance estimates of low-trend, cyclically adjusted GNP.

Source: Authors' calculations, using unpublished estimates from the Department of finance.

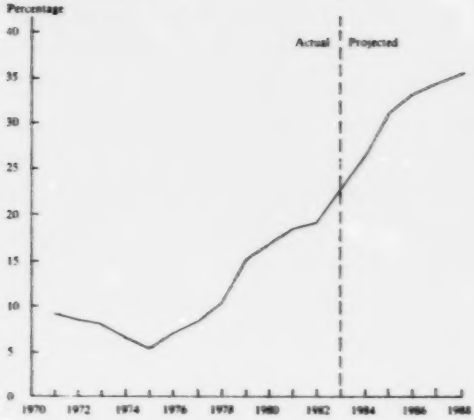
The Structural Deficit

Department of Finance estimates of the structural deficit -- presented in Table 1 for the federal government and in Table 2 for the consolidated governments -- provide a great deal of information about the recent and projected fiscal stance of the federal government. Many observers take comfort in the fact that the structural deficit tends to fall gradually over the next few years, and argue on this basis that continuing deficits are not a major cause for concern.[14] We think this is an incorrect conclusion since it is based on a measure that is not appropriate for assessing the financial implications of the fiscal plan.

FIGURE 2

Federal Government Debt, 1971-88*

(percentage of trend GNP)†



* Federal net fixed-value liabilities, beginning of year stock.
† Department of Finance estimates of low-trend, cyclically adjusted GNP.

Source: Column 2 of Table 3.

Before turning to our measure of the imprudent deficit, it is worth highlighting two aspects of the structural deficit that clarify its inadequacies as a measure of fiscal prudence.

First, the cyclical adjustments estimated by the Department of Finance are always negative, indicating that the economy is operating below capacity throughout the period. This is true regardless of whether one adopts an optimistic (high-trend) or a pessimistic (low-trend) view of the economy's trend rate of growth. Indeed, the adjustment has been negative since 1975. For the purposes of assessing the fiscal stance, this is not a major concern. All that matters is that some base income level be used consistently to estimate the effect of the automatic stabilizers; changes in the resulting adjusted series are a

useful indication of discretionary changes in the fiscal stance. For the purposes of assessing fiscal prudence, this chronic negative cyclical component is a problem. A small structural deficit could well be accompanied by an exploding debt-to-GNP ratio if the structural deficit is calculated using a measure of capacity output that the economy rarely attains, let alone exceeds.

Second, consider the inflation adjustment. Despite a projected steady inflation of five percent, the inflation adjustment is larger in the years 1985-87 than in 1984, and jumps significantly in 1988.[15] This is because the stock of debt by which the inflation rate is multiplied is itself growing. This illustrates how the structural deficit can be misleading as a measure of fiscal prudence. A growing stock of debt -- the source of our concern -- leads to a reduced structural deficit.

The Imprudent Deficit

Our measures of the imprudent deficit are also presented in Table 1 for the federal government and in Table 2 for the consolidated governments. These estimates indicate that the imprudent component of the federal deficit is large and that after declining in 1984-86 it will begin to rise again. Before turning to a discussion of the implications of these estimates, let us first explain the calculations involved in their construction.

- **Cyclical adjustment.** Conventional cyclical adjustments made in calculating the structural deficit are usually based on assumptions about the trend of potential GNP. Typically, these adjustments are negative or projected to be negative throughout the period. In terms of prudence, a more realistic view of "normal" GNP seems to be in order. It is clearly preferable, for example, to use a cycle-average of output, adjusted for trend growth. In the absence of such a series, however, we use the Department of Finance's low-trend series, which assumes that the economy was on its trend growth path in 1979 and that it will return to that path by 1988.
- **Inflation adjustment.** The typical inflation adjustment used in calculating the structural deficit is based upon actual inflation rates. As argued above, actual inflation rates do measure the decline in the real value of the public debt caused by inflation, but one would not want a fiscal plan that is prudent only if an undesirably high inflation is in progress. Department of Finance projections of the inflation rate for 1984-88, based on the GNE deflator and used to perform the inflation adjustments in Tables 1 and 2, average around 5 percent. We accept this as a reasonable target inflation rate, with the caveat that a goal of lower inflation would mean that a smaller inflation rate should be used.
- **Target debt-to-GNP ratio.** Perhaps the most serious problem with the inflation adjustment used in calculating the structural deficit is that it rises steadily whenever the outstanding

stock of public debt rises rapidly. We have argued that the fiscal plan should be judged prudent in terms of whether a target debt-to-GNP ratio is maintained. Accordingly, the target, rather than the actual, stock of debt should be used in adjusting the measured deficit.

We choose the debt-to-GNP ratio in 1979 as our target. This value is approximately equal to the average of the period 1969-84. It also precedes the sharp rise in the debt-to-GNP ratio that occurred during the recession. Thus, we set the target ratio of net fixed-value liabilities to trend GNP at 15.1 percent for the federal government and at 17.9 percent for consolidated governments (see Table 3). We then multiply these ratios by the Department of Finance's low-trend GNP estimates to obtain the target net liabilities for 1984 through 1988. The inflation adjustment is calculated by applying the target inflation rates to the target net liabilities for the respective years.

- **Trend growth adjustment.** We have argued above that a component of the deficit attributable to trend output growth is consistent with a prudent fiscal plan.[16] To allow for the prudent growth in the government's stock of debt that is permitted by the trend growth of GNP, we have adjusted the projected deficits by a term equal to target net liabilities times the low-trend growth rate.

In the last columns of Tables 1 and 2, we present our measure of the imprudent deficit for

TABLE 3

Ratios of Debt to GNP, 1971–88

	Federal government net fixed-value liabilities		Consolidated government net fixed-value liabilities	
	% of GNP	% of trend GNP	% of GNP	% of trend GNP
1971	9.2	9.1	17.5	17.2
1972	8.8	8.8	16.0	16.0
1973	8.4	8.4	15.2	15.3
1974	6.7	6.9	12.2	12.6
1975	5.4	5.5	9.7	9.9
1976	7.2	7.2	12.2	12.2
1977	8.4	8.5	13.1	13.3
1978	10.7	10.6	14.9	14.8
1979	15.1	15.1	18.0	17.9
1980	17.0	17.0	17.3	17.2
1981	19.1	18.7	18.4	18.0
1982	19.4	19.2	19.2	19.0
1983	24.6	22.8	24.9	23.0
1984	29.0	26.9	28.5	26.4
1985	32.7	31.2	31.2	29.7
1986	34.8	33.5	32.7	31.5
1987	35.6	34.5	32.7	31.8
1988	36.2	35.8	32.6	32.3

Sources: Ratios of net fixed-value liabilities to GNP are from Department of Finance, *The Fiscal Plan* (Ottawa, February 1984); ratios of net fixed-value liabilities to trend GNP are authors' calculations, based on Department of Finance estimates of low-trend, cyclically adjusted GNP. Figures for 1984–88 are based on projections.

the federal and consolidated government sectors respectively. It is equal to the measured NIA deficit less the Department of Finance's low-trend cyclical adjustment less our inflation and growth components based on our target debt-to-GNP ratio. The numbers in these columns represent the difference between the actual deficit and a level that is fiscally prudent by our criteria. Thus, we refer to this difference as the "imprudent" deficit.

These calculations indicate that the federal fiscal plan is imprudent. To establish fiscal prudence, the projected federal deficit must be reduced by $11 billion between now and 1988. This would ensure that, if the economy operates "normally" on average after 1988 and the target inflation rate is achieved, the target debt-to-GNP ratio will be reached. We stress that this target ratio will only be reached in the long term. That is, we have allowed both the maximum time possible for the economy to return to the target debt-to-GNP ratio and, correspondingly, the minimum deficit reduction consistent with our criterion of fiscal prudence.

It is important to note that the size of the imprudent deficit is sensitive to several key assumptions, the most important of which are the value of cyclically adjusted GNP, the target inflation rate, and the target ratio of debt to trend GNP.

We think that we have erred on the generous side in using the Department of Finance's low-trend, cyclically adjusted GNP estimates. If the

Canadian economy cannot achieve this potential growth over the long term, the projected growth in government debt is truly imprudent. Our choice of the projected 1984-88 inflation rates as suitable targets is also reasonable. An inability to meet these targets is more likely to result from excessive deficits than from unreasonable values for the inflation targets.

The other key assumption on which our conclusion of fiscal imprudence rests is the choice of the pre-recession, 1979 debt-to-GNP ratio as a target. The current fiscal plan would be prudent by 1988, for example, if the target debt-to-GNP ratio were .362 -- over two times the 1979 ratio. But virtually any fiscal plan could be interpreted as being fiscally prudent if one were willing to accept a high enough debt-to-GNP ratio.

Moreover, we do not require that the 1979 debt-to-GNP ratio be achieved by 1988, only that it be approached gradually over the long term. In other words, we require that the target debt-to-GNP ratio be unchanged by a temporary economic phenomenon such as the recent recession. To assume otherwise is to ignore the goal of fiscal prudence and to incur the long-term costs implied by its absence.

Finally, we point out that the rising trend in the imprudent deficit after 1986 would be present whatever target ratio of debt to trend GNP is chosen. This reflects the viewpoint, implicit in our methodology, that the sharply rising actual debt-to-GNP ratio should not be the source of ever-larger adjustments to be subtracted from the deficit.

A Program for Fiscal Prudence

We believe that $11 billion needs to be cut from the federal deficit projected for 1988 in order to ensure fiscal prudence. This raises two questions. First, how can this be achieved without doing violence to the stabilization role of deficits? Second, what items in the budget should bear the brunt of the adjustment?

Fiscal Prudence and Stabilization

The problem of how to achieve fiscal prudence without compromising the role of the deficit in stabilization policy is a serious one. The obvious answer -- indeed, the one implicit in the concept of a cyclically balanced budget -- is to make budget cuts during a period of economic expansion. Unfortunately, the political will for restraint seems weakest at that phase of the cycle. Restraint is commonly viewed as a response to "waste" so, from the point of view of stabilization, the will for restraint is, paradoxically, strongest when "times are tough". One could take hope in the lags that hinder fine tuning; perhaps the cuts instituted in slumps will have their major effects in subsequent booms. But this would require more good luck than should be counted on.

A more constructive suggestion arises from the notion of introducing a "tilt" to the budget. This would involve changing permanent or projected taxes and/or program expenditures by enough to

eliminate the imprudent portion of the deficit by 1988, and then using temporary changes in taxes and/or expenditures to pursue stabilization objectives. (Such a tilt was used in the April 1983 budget, which introduced current stimulus and delayed restraint.) The key problem is the credibility of the exercise: how can we be sure the policies introduced for stabilization purposes will indeed be temporary? It is the entrenchment of such "temporary" policies in the past that has been a major source of current fiscal imprudence.

Finally, other policy levers can be adjusted to mitigate the restrictive effects of deficit cuts. A modest relaxation of monetary policy would mitigate the aggregate demand effects of budget cuts while improving the monetary-fiscal mix. Further, recognition that current and projected high unemployment in Canada is largely a structural, rather than an aggregate demand, problem would suggest that structural reforms to improve incentives and to eliminate waste and inefficiency would be desirable. (We feel structural reforms are desirable in any event, but that budget cuts provide a particularly useful occasion for their implementation.)

Deficit Reduction Strategies

We do not wish our finding that the current federal fiscal plan is imprudent to be judged on the basis of possible reaction to our proposals of how to eliminate its imprudent component. Rather,

we believe that this finding stands on its own. For completeness, however, we do feel the need to address the issue of how to cut the deficit.[17]

First, we believe that some, if not all, of the cuts should come from government spending. Ballooning transfer payments played a large role in the emergence of fiscal imprudence, and these programs need to be reexamined to place them on a sounder, if not cyclically balanced, basis. Indeed, despite the rhetoric of spending restraint, expenditure levels in each envelope have risen rapidly.[18] When one also considers the provincial, local, and hospital sectors, the rapid growth in government spending in Canada is all the more obvious.

We would, as a first position at least, propose a proportionate spending cut across all envelopes -- except public debt charges, which appear to be totally nondiscretionary. In order to reestablish fiscal prudence by 1988, the rate of growth of nominal expenditure would have to fall to 4.5 percent from the presently projected 6.9 percent for each of the next four fiscal years. Such a fall would result in a cut in projected government spending of $11 billion by 1988.[19]

This approach could be augmented by introducing across-the-board cuts in excess of this final target cut in spending, with the "excess" giving rise to a merit pool that could be allocated via the envelope system. We also believe that, at a more fundamental level, significant savings may be possible by reorganizing and ra-

tionalizing the federal bureaucracy. This could involve closing down one or more whole departments.

A more difficult issue is that of tax revenues. Politically, some tax increases may be necessary to meet the expenditure cuts "halfway". But we are not comfortable with this political compromise. We believe that the relatively high taxes now in place already hamper the functioning of the economy and that raising tax rates now would severely slow the recovery. If tax revenue were to be increased, we would favor the use of revenue-enhancing tax reform rather than simple increases in tax rates.[20] But even revenue-enhancing tax reform worries us somewhat, given the track record governments have shown in their ability to spend their revenue. Revenue enhancement in any form could create the potential for a further expansion of government expenditure sometime in the future.

Conclusion

Under the present fiscal plan, the debt-to-GNP ratio in 1988 will reach a level that is over twice as large as that which prevailed in 1979 and more than six times larger than that of 1975. To avoid the very real costs associated with this high debt ratio, the federal deficit projected for 1988 must be reduced by $11 billion. This means that the deficit should fall by about $20 billion from its projected 1984 level.

Opponents of deficit cuts have recently adopted the tactic of challenging those who propose such cuts to specify how the deficit should be reduced. This is calculated to generate political resistance to deficit reduction, but it does not change the basic fact: the federal fiscal plan is imprudent and the deficit must be cut.

In our view, this tactic does emphasize that there are no painless ways to cut the deficit; cutting the deficit requires expenditure reduction, tax increases, or both. But this ignores the fact that not cutting the deficit also involves serious costs, albeit of an indirect and hidden kind.

We favor expenditure reduction as the logical route to deficit reduction because we believe that the same mechanism that led to the rapid growth in the deficit was also responsible for excessive government expenditure. The genesis of the deficit lies in a political mechanism favoring government programs that offer benefits now and impose costs that are deferred -- and hidden -- through deficit finance. Had these costs been apparent in the first place, the political pressure for many programs would not have been as strong and higher taxes could not now be justified on grounds that the deficit is too large.

Notes

1. The term was used in our earlier work. See Neil Bruce and Douglas D. Purvis, "Fiscal Discipline and Rules for Controlling the Deficit: Some Unpleasant Keynesian Arithmetic," in David W. Conklin and Thomas J. Courchene, eds., Deficits: How Big and How Bad? (Toronto: Ontario Economic Council, 1983), pp. 323-340.
2. This seemingly obvious Keynesian proposition has been challenged by more recent economic research. The basic argument against it is that people in the private sector have a clear idea of their permanent lifetime incomes and they gear their expenditure plans to that long-term idea of income rather than to current income. Thus, when current income falls temporarily, households will borrow to maintain their expenditures at a level commensurate with their expected lifetime incomes. One argument against this view is that many households cannot borrow against their expected incomes if they do not have current assets as collateral.
3. There is, of course, no guarantee that the benefits of countercyclical policy will be achieved -- complications may arise due to lags and uncertainty -- but in principle, such benefits are possible.
4. Increases in government expenditures accompanied by increases in taxes do have some

small stimulating effect on the economy. Economists measure this effect by what is referred to as the "balanced budget multiplier".

5. By pursuing a countercyclical budgetary policy, the government essentially acts as a financial intermediary. During slumps it borrows on behalf of the liquidity-constrained private sector and passes the proceeds along in terms of a deficit. During booms it does the opposite, running a surplus. The government is in a position to do this because of its broad powers to tax and its related ready access to capital markets. The government essentially acts as lender of last resort so that households and firms who suffer a sharp change in their receipts can maintain their desired level of sending.

6. Note the difference between the two adjustments. The cyclical adjustment eliminates automatic stabilizers. The inflation adjustment eliminates a component of government spending that does not affect aggregate demand.

7. Thus, ratios of assets to liabilities -- commonly used to assess the viability of private entities -- are not especially relevant for determining fiscal prudence. For this reason we do not think that subtracting net public capital formation expenditures from the federal deficit is an especially useful practice although it may be appropriate in evaluating provincial deficits, given the provinces' restricted taxing powers.

8. There are also benefits associated with the existence of government debt -- for example, to maintain a market in debt to facilitate the intermediary function discussed in note 5 above. Hence, over some range, net benefits may rise as the debt-to-GNP ratio rises. However, current levels of debt relative to GNP seem clearly beyond that range so that net benefits are falling -- that is, in the relevant range, net costs rise relative to GNP as government debt rises relative to GNP.

9. The stock of capital is permanently lower; it does not gradually return to its former level by increased saving and investment because the interest-bearing government bonds now serve as substitutes for productive capital assets in the portfolio of private investors.

10. For further discussion, see Bruce and Purvis.

11. As argued in note 8, the target debt-to-GNP ratio need not be zero because there are some benefits to having an existing stock of government bonds. The target ratio should not be too large, however, because of the costs discussed in the first section.

12. See Department of Finance, The Deficit in Perspective (Ottawa, April 1983), for some clarification of these issues. The crucial observations are that the FR and NIA deficits are roughly similar in magnitude, although the corresponding measures of gross

revenues and expenditures are much smaller for the FR basis because it nets out numerous items. The PA deficit (the one most quoted) is much larger than either the FR or NIA measures because it excludes nonbudgetary items, including transactions on specified purpose accounts, such as government pension plans and the unemployment insurance account, that generate -- or are expected to generate in the future -- sizable cash surpluses. Whether these specified purpose account surpluses should be counted -- as in the NR and NIA bases -- or not -- as in the PA basis -- depends on what one wants to know about the deficit.

13. Government indebtedness can be defined in a number of ways. We use net fixed-value liabilities as the most appropriate measure of the federal government debt. This measure is calculated by subtracting fixed-value, interest-bearing assets held by the federal government from the government's total liabilities. Such a measure is appropriate both for gauging the net impact of changes in interest rates on the government's fiscal position and for estimating the year-to-year decline in liabilities caused by inflation. See Department of Finance, p. 63.

14. A number of economists strongly support this view. See, for example, J. Bossons and P. Dungan, "The Government Deficit: Too High or Too Low?" Canadian Tax Journal 31 (January-February 1983): 1-29; R. Eisner and P.

Pieper, "A New View of the Federal Debt and Budget Deficits," American Economic Review 74 (March 1984): 11-29; J. McCallum, "Government Deficits: Historical Analysis and Present Policy Alternatives," in Conklin and Courchene, pp. 284-317; and F. Modigliani, "Government Deficits, Inflation, and Future Generations," in Conklin and Courchene, pp. 55-71.

15. Department of Finance projections used to calculate the inflation adjustment are shown in the following table:

Year	Inflation rate (percent)	Net fixed-value liabilities ($ billions)	Inflation adjustment
1984	5.2	112.8	6.7
1985	5.7	140.1	7.7
1986	5.1	163.1	7.9
1987	4.2	181.8	7.0
1988	4.9	200.6	10.2

Source: Department of Finance, The Fiscal Plan (Ottawa, February 1984), p. 58.

16. We would also argue that some adjustment should be made for temporary fluctuations in real interest rates. In view of the difficulty of doing this, we have not made such an adjustment, although it seems that abnormally high real interest rates at the pres-

ent time contribute to the deficit without affecting prudence.

17. For a detailed discussion of which items in the budget might be cut, see Edward A. Carmichael, Tackling the Federal Deficit, Observation no. 26 (Toronto: C.D. Howe Institute, 1984).
18. For example, from fiscal year 1979-80 to fiscal year 1983-84 (a four-year period), program outlays (that is, expenditure excluding debt charges) grew 74.2 percent, or an average of 15 percent per year.
19. This calculation assumes that the entire burden of reestablishing fiscal prudence falls on the expenditure side, and abstracts from such possible repercussions as a slowdown in the recovery.
20. Perhaps the emergence of a political will to reduce the deficit could help overcome the political obstacles to tax reform.

Policy Analysis Committee

The C.D. Howe Institute Policy Analysis Committee (HIPAC) was formed in 1980 from the Canadian Economic Policy Committee, established in 1961. This change was brought about to help streamline the Institute's activities and to improve the process of accountability of staff to the Institute's members.

HIPAC's membership is drawn primarily from business and labor organizations that are members of the Institute. To encourage diversity of perspective, HIPAC also includes members from the academic world, from agricultural organizations, and from the professions. Two Regional Advisory Committees have been established across the country to assist HIPAC in determining its research agenda and to ensure that the research conducted by the Institute on its behalf is relevant and reflective of regional points of view.

Full meetings of HIPAC's membership are held twice each year. The purposes of these meetings are to hear expert speakers on current policies, to engage in frank discussion of topics raised by members, and to identify a research program that the Institute can effectively carry out to improve public understanding of important policy issues. The professional completion of this program is then supervised by the Institute, which coordinates with the HIPAC Executive Committee.

The Chairman of HIPAC is H.A. Hampson (President and Chief Executive Officer, Canada Development Corporation).

Policy Commentary Series

1 *Conflict over Communications Policy: A Study of Federal-Provincial Relations and Public Policy*, by R. Brian Woodrow et al. (November 1980).
2 *Pensions and the Economic Security of the Elderly*, by Frank T. Denton, Melvin L. Kliman, and Byron G. Spencer (February 1981).
3 *Trade Policy in the 1980s: An Agenda for Canadian-U.S. Relations*, by Rodney de C. Grey (September 1981).
4 *Evaluating the Deficit: The Case for Budget Cuts*, by Neil Bruce and Douglas D. Purvis (July 1984).